

Ans. ~~Why~~ Why so many specs./fants.

Ans, rather than rans or Eans?

Bec. σ seems 1st glnc^{so}, \oplus -like.

Nrst. pl. surf see.

[pol. ~~ice~~ ice caps, drift'g wh. clds,
rag'g dust storms, seas'n'y Δ 'ng patts. red surf.,
even 24^h d. Tmpt'g think inhab'd wrld.

σ becom myth'c arena

project'd \oplus 'ly hopes + fears

Most tntlzg myths σ hv prov'd wrng.

S. few peop. swing opp. extrm.

+ conclud'd pl. lit. int.

Begun sing blues red pl.

But real σ wrld wndrs.

Its fut. proosps. ~~far~~ far > intrg'g

past apprs about it.

In our t have ^{sft'd sands σ} ~~estbl'd pres σ~~

~~fullfil'd~~ cent. dreams.

estbl'd a presence there

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STUDIO/SFX/ROSTRUM/STOCK

VIDEO

AUDIO

09:19. Approach to Mars. VO recorded.

Martians! Why so many fantasies and speculations about Martians?.....

09:47. Dandelion SYNC.

.....Mars has become a kind of mythic arena... we have established a presence there, we have fulfilled a century of dreams.

Microscope world.

One of the great scientific dreamers of all time was H. G. Wells. In 1898, he launched an army of Martians against an unsuspecting England.

English village, alien view.
AM reading Wells' opening lines.

No one would have believed.....and slowly and surely drew their plans against us.

14:09. English village, human view.

H. G. Wells' novel, "The War of the Worlds", sent a shiver through the popular imagination of the late Victorian era.

14:16. Antique automobile.

This was a time when the automobile was only a curious novelty, a time when the pace of life was still largely determined by horse and buggy. Into this world, the interplanetary fantasy of H. G. Wells came as a startling revelation. It was an immediate best-seller.

14:31.

His story of implacable aliens armed with a highly superior technology was without precedent.

14:39.

H. G. Wells was the first person to imagine

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15:02.

an extraterrestrial invasion of the Earth. What is more, his Martians were not merely variations on a human theme; instead they were the biological product of a totally alien environment.

Forty years later, this fantasy still had the power to frighten millions of people when it was dramatized on American radio by the young Orson Welles.

15:14. CS reaches steps to Lowell Obs.

A few years before "The War of the Worlds" was first published, another quite different vision of Martians was taking form in the mind of a wealthy Bostonian named Percival Lowell.

15:31.

Whereas the Martians of H. G. Wells were a fictional device for examining contemporary society through alien eyes, Percival Lowell believed that his Martians were real.

SYNC in observatory.

It was here that the most elaborate claims... all in all, he believed too much.

20:55. Martian cities.

Lowell's Martians were a dying race. Their once great cities were falling into ruins. Their technology, although far more advanced

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Model canal.

2:22:04

Sun behind Trona Pinnacles

Dandelion SYNC:

2:24:57 Photo of young Goddard

than ours, was inadequate to stem an ecological catastrophe. For, Lowell believed, the Martian climate was changing, their precious water was trickling away into space, their planet was becoming a desert.

Lowell surmised that the canals must be a last desperate measure, a heroic engineering effort, to direct the scarce water to the dwindling Martian population.

The most serious contemporary challenge to Lowell's ideas came from an unlikely source: the biologist Alfred Russel Wallace, co-discoverer of evolution by natural selection. Wallace showed that the air on Mars was much too cold and thin to permit the existence of liquid water. He wrote that only a "race of madmen" would build canals under such conditions.

LOWELL'S MARTIANS WERE BENIGN AND HOPEFUL...THERE HAD TO BE SOME BETTER WAY."

And there was. The real road to Mars

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24:24. Old man in tri-cornered hat.

was opened by a boy who loved sky-rockets.

25:43. Fast moving clouds over steeple.

Fourth of July celebrations in Worcester, Mass., are much the same today as they were in the 1890's.

25:50. Kneeling Goddard w/ rocket.

Then, as now, the highlight of the day's festivities was a rousing fireworks display.

26:20

And that was the part that Robert Goddard liked the best.

26:27

By the time he was 16, he was organizing his own shows.

26:44. Old photo of R. G. w/ mother.

In 1898, H. G. Wells' War of the Worlds was being serialized in the Boston Post. Goddard avidly read every word.

27:08

Those same newspapers were also reporting the intriguing conjectures of Prof. Lowell, whose lectures Goddard would later attend.

The fantastic images of Mars that were spun by Wells and Lowell beguiled the young Goddard, and on Oct. 19, 1899, they crystallized into an overwhelming vision that

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27:52

provided the direction and purpose of his life.

28:26

From the high branches of an old cherry tree on his family's farm, Goddard saw that it might be possible to transcend mere fantasy and speculation about Mars. Before anyone had ever flown in an airplane, or listened to a radio, Goddard decided to invent a machine that would actually go to Mars.

28:41. Old rocket footage.

For the rest of his life, he was to commemorate that October day as his "Anniversary Day", the birthday of his dream.

29:06

By the 1920's, after years of study in physics and engineering, he was experimenting with primitive rockets.

In order to build a rocket capable of reaching high altitudes, Goddard had to create the principles of an entirely new technology; he invented the basic components that propel, stabilize, and guide the modern rocket.

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29:37

It was painstaking and difficult work. But
Goddard took the many setbacks in stride.

29:46

He sifted the wreckage of each experiment
for clues to guide the next.

29:55

Constantly refining old techniques and
inventing new ones, he gradually raised the
rocket from a clumsy toy and set it on its
way to becoming an interplanetary vehicle.

30:16. Goddard before blackboard.

Goddard died in 1945, before a rocket had
ever left the planet Earth. Although Mars
always remained his objective, Goddard knew
that such a goal would be considered too
outrageous. For this reason, in public he
spoke only of aiming at the Moon.

30:40. Modern rocket launch.

As it turned out, the first planet to be
explored by rockets was the Earth.
In Goddard's cherry tree reverie, he had
imagined looking down on the Earth from a
great height.